The Applicants have amended Fig. 2 of the Drawings to correct missing numeral pointing lines and enclose herewith an amended Fig. 2 marked in red to show the drawing changes made.

The Applicants have also amended Claim 1 and added new Claims 4 - 6. Claims 1 - 6 are now in the application.

The Applicants submit that no new matter has been added by any of the amendments or additions.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**<u>Version with markings to show changes made</u>**."

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

(Underlinings indicate additions. Strikethroughs indicate deletions)

In the Specification:

The paragraph on Page 1, lines 4 - 5 is amended as follows:

This invention relates to an optical fiber transmission line in which chromatic dispersion is controlled.

The paragraphs from Page 1, line 8, to Page 2, line 7, are amended as follows:

In a long haul optical fiber transmission system, dispersion compensating fibers are disposed at appropriate intervals because it is necessary to control accumulated chromatic dispersion within a predetermined value (See U.S. Pat. No. 5,361,319).

In wavelength division multiplexing (WDM) optical transmission that has attracted public attention as a means to increase ~~a~~ transmission capacity, there is another problem that accumulated chromatic dispersion differs per wavelength since chromatic dispersion of a transmission optical fiber differs per wavelength (this is called as a dispersion slope). ~~At the beginning, although~~ Although a configuration to compensate the difference of accumulated chromatic dispersion values between the wavelengths at a receiver or transmitter side is proposed, the dispersion amount that the transmitter or receiver side can compensate is limited. In addition, the permissible difference of dispersion values tends to decrease as a bit rate per channel increases.

~~Therefore, such~~ Such an optical transmission line has been proposed that locally compensates the accumulated chromatic dispersion per optical repeating span and widely compensates the accumulated chromatic dispersion per predetermined number of optical repeating spans simultaneously (See, for example, Japanese Laid-Open Patent Publication No. 2000-82995, T. Naito et al., ECOC '99 PDPD2-1, Nice, 1999, and EP 1035671 A2).

The paragraph from Page 2, line 17, to Page 3, line 13, is amended as follows:

In the configuration disclosed in EP 1035671 A2, since the local dispersion Dlocal is set to a positive value (between +1 ps/nm/km and +4 ps/nm/km), a dispersion compensating fiber to be disposed at a wide area compensating span must be a negative dispersion fiber. In

consideration of practical maintenance of a system, it is preferable that the interval of repeaters should be 20 km or more and also the length of each repeating span should be approximately equivalent. However, if a negative dispersion fiber with a dispersion value of -50 ps/nm/km or less (absolute value is 50 ps/nm/km or more) is used for the compensation of the wide area, the length of approximately 10 km is sufficient and this is very different as compared to the lengths of other repeating spans. Therefore, to ~~To~~ equalize the lengths of all repeating spans, it is necessary to provide a third optical fiber with a different chromatic dispersion value as a dispersion fiber for the wide area compensation, which means the ~~to~~ use of three kinds of optical fibers. This makes the maintenance of the system very difficult. For instance, when broken parts are to be connected, it is required to provide three kinds of optical fibers and insert one of the fibers after selecting a suitable one for the optical fiber with the broken parts.

The paragraphs on Page 4, lines 3 - 18, are amended as follows:

An optical fiber transmission line according to the invention consists of a plurality of local dispersion compensating spans, a wide area dispersion compensating span ~~spans~~ disposed at predetermined intervals, and optical repeating amplifiers to connect each span, wherein the local dispersion compensating span consists of a first optical fiber of positive dispersion having an effective core area of 130 μm^2 or more and a second optical fiber having a negative dispersion value of - 50 ps/nm/km or less to transmit an optical signal output from the first optical fiber.~~, and the~~ The wide area dispersion compensating span consists of a third optical fiber having the same configuration and composition ~~with~~ as the first optical fiber.

Owing to the above dispersion control, satisfactory transmission characteristics can be realized even on the long haul transmission. Furthermore, the maintenance control becomes easier because ~~practically~~ only two kinds of the optical fibers are used.

The paragraph header on Page 5, line 7, is amended as follows:

BRIEF DESCRIPTION OF THE ~~DRAWING~~ DRAWINGS

The paragraphs from Page 6, line 4, to Page 7, line 17, are amended as follows:

FIG. 1 shows a schematic block diagram of a first embodiment according to the invention, and FIG. 2 shows a schematic diagram of a dispersion map, namely ~~distance~~ the variation of accumulated chromatic dispersion as a function of distance.

~~Reference numeral 10 denotes an optical~~ Optical transmitter 10 ~~to launch~~ launches a WDM optical signal onto an optical transmission line 12. ~~, and reference numeral 14 denotes an optical~~ Optical receiver 14 ~~to receive~~ receives the WDM optical signal propagated on the optical transmission line 12. The optical transmission line 12 consists of a plurality of repeating spans partitioned by optical amplifiers 16 (16-1, 16-2...). In this embodiment, the accumulated chromatic dispersion and dispersion slope are locally compensated per repeating span and the accumulated chromatic dispersion is widely compensated per predetermined number of the repeating spans simultaneously. The repeating span to locally compensate the chromatic dispersion is called ~~as~~ a local compensating span and the repeating span to widely compensate the chromatic dispersion is called a wide compensating span. In the embodiment shown in FIG. 1, the local compensating span equals ~~to~~ one repeating span. One repeating span after ~~six~~ five local compensating spans becomes the wide compensating span. In the embodiment shown in FIG. 1, the ~~six~~ five local compensating spans and the following one wide compensating span form a basic unit, and this basic unit is repeated until reaching the optical receiver 14.

The local compensating span consists of a positive dispersion optical fiber 18 (18-1, 18-2...) and a negative dispersion optical fiber 20 (20-1, 20-2...) to transmit the output light from the positive dispersion optical fiber 18. The wide compensating span consists of a positive dispersion optical fiber 22 alone that ~~composes~~ is composed of the same optical fiber ~~with~~ as the positive dispersion optical fiber 18. In this embodiment, one repeating span is set to 20 km or more, the effective core area Aeff of the positive dispersion optical fibers 18 and 22 is set to 130 μm^2 or more, and the negative dispersion optical fiber 20 consists of an optical fiber with the chromatic dispersion of -50 ps/nm/km or less, namely an optical fiber with the negative chromatic dispersion having the absolute value of 50 ps/nm/km or more.

The paragraph from Page 8, line 20, to Page 9, line 4, is amended as follows:

The desirable dispersion values of the negative dispersion optical fiber 20 are measured at 7750 km and 10000 km transmissions respectively. The measured results are shown in FIG. 3. The horizontal axis expresses the dispersion values of the negative dispersion optical fiber 20 and the vertical axis expresses the average values of Q2 (dB). Obviously from FIG. 3, the chromatic dispersion value of the negative dispersion optical fiber 20 should be set to -50 ps/nm/km or less.

The paragraph from Page 9, line 15, to Page 10, line 1, is amended as follows:

FIG. 5 shows the measured result of the ~~The~~ influence of the effective core area Aeff of the positive dispersion optical fibers 18 and 22 ~~is researched~~. ~~FIG. 5 shows the measured result.~~ The horizontal axis expresses the effective core area of the positive dispersion optical fibers 18, 22 and the vertical axis expresses Q2 (dB). The transmission distance is 6000 km and 16 wavelengths of 10 Gbit/s are multiplexed. Dlocal is set to -4 ps/nm/km and the wide compensation is performed every seven repeating spans. Obviously from FIG. 5, the effective core area Aeff of the positive dispersion optical fibers 18 and 22 should preferably be set to 130 μm^2 or more.

The paragraph on Page 10, lines 9 - 15, is amended as follows:

As is readily understandable from the aforementioned explanation, according to the invention, satisfactory long haul transmission characteristics can be realized by using two kinds of optical fibers. In addition, the dispersion management and maintenance become much easier, and satisfactory transmission characteristics can be realized at high speed and large capacity WDM transmission.

In the Claims:

1.(amended) An optical fiber transmission line comprising a plurality of local dispersion compensating spans, wide dispersion compensating spans disposed at predetermined intervals, and optical repeating amplifiers to connect each span;

wherein the local dispersion compensating span includes ~~comprises~~ a first optical fiber with positive dispersion having an effective core area of 130 μm^2 or more and a second optical

fiber with a negative dispersion value of -50 ps/nm/km or less to transmit an optical signal output from the first optical fiber; and

wherein the wide dispersion compensating span includes ~~comprises~~ a third optical fiber having the same configuration and composition as ~~with~~ the first optical fiber.